



James North, left, and Byron Murray test ribavirin's effect on an AIDS-like virus.

BYU scientists dicover protein that may help in AIDS puzle

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Two Brigham Young University microbiologists have discovered that ribavirin induces production of a protein that appears to inhibit an AIDS-related virus found in cattle.

Ribavirin is an antiviral drug showing promise in the treatment of AIDS.

James A. North and Byron K. Murray have been working with the bovine leukemia virus, or BLV, in cell culture. BLV is a retrovirus and close cousin to the virus that causes AIDS in humans.

Results of their research were presented this month in Florida at the annual meeting of the American Society for Microbiology.

Retroviruses, which are RNA viruses, are dangerous because their basic genetic makeup is reversed by going through a DNA phase — which causes the RNA virus to have properties it does not normally

have. The DNA properties can integrate into the cell's chromosomes, which, if expressed through the virus, may cause such conditions as leukemia, brain infections, tumors and other serious health problems.

"The really exciting thing about this research is, if we can identify the protein then why do we need to use the drug?" said North. "We may be able to bypass drug therapy and its inherent dangers and manufacture this protein instead."

By giving AIDS-related-complex (ARC) patients this protein instead of a drug, scientists would expect fewer harmful side effects and a greater chance of keeping the virus dormant longer. ARC is the precursor to AIDS.

Data from the BYU experiment suggest that ribavirin induces one or more proteins to bind to the part of a virus that

regulates reproduction.

In other words, the scientists said, ribavirin appears to activate production of a protein that could shut off the deadly virus' regulatory code — effectively setting up a road block in the disease's progression.

"These proteins appear to be stimulated by the presence of ribavirin. We believe there's a lot of potential," North said.

Ribavirin was synthesized in 1972 by Roland K. Robins, former director of the Cancer Research Center at BYU. Robins created the drug while at the Nucleic Acid Research Institute in Costa Mesa, Calif., where he again works under one of its subsidiaries. Hundreds of scientific papers have been written about ribavirin, with a general consensus that it is effective against a wide range of both DNA and RNA viruses.

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By Art Sansom



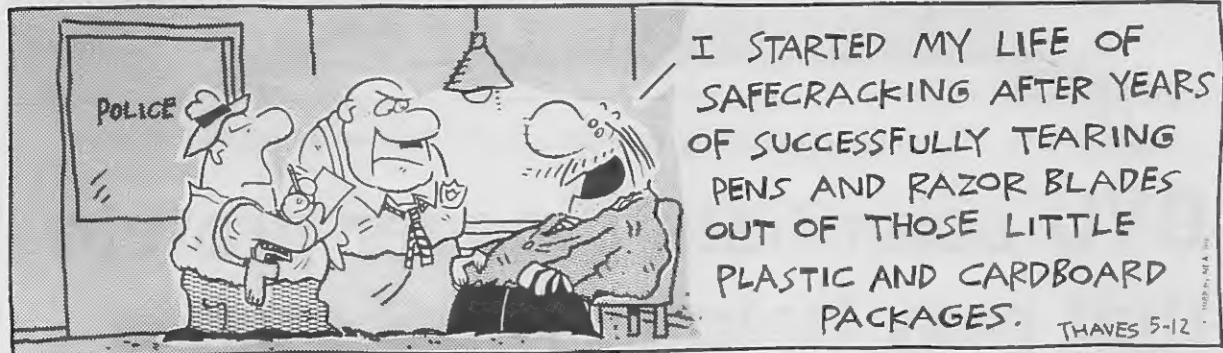
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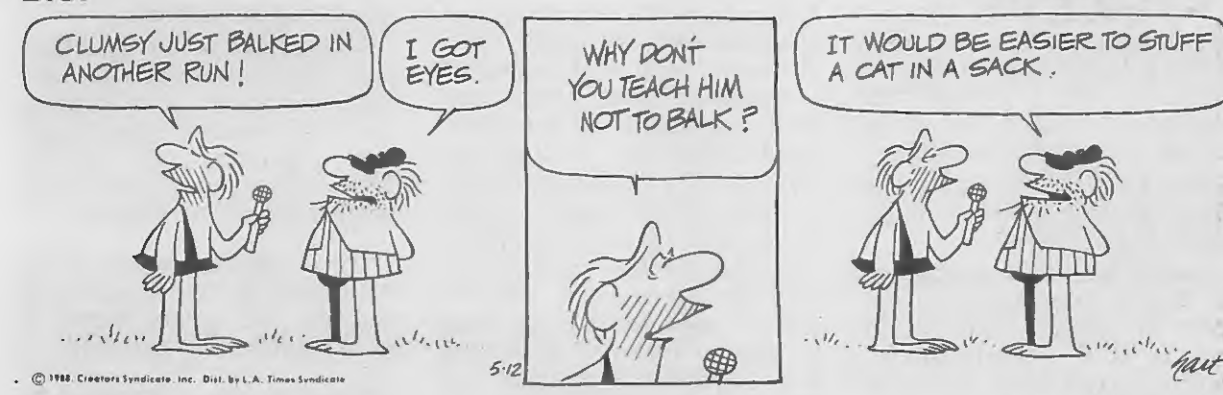
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